

Title (en)

SELF-HEATING ELECTRIC PLUGGER/SYRINGE NEEDLE FOR USE IN FILLING A ROOT CANAL

Title (de)

ELEKTRISCHE SELBSTHEIZENDE STOPFER-/SPRITZENNADEL ZUM FÜLLEN EINES ZAHNWURZELKANALS

Title (fr)

AIGUILLE DE SERINGUE/FOULOIR ÉLECTRIQUE AUTO-CHAUFFANTE À UTILISER DANS LE REMPLISSAGE D'UN CANAL RADICULAIRE

Publication

**EP 3383306 B1 20190925 (EN)**

Application

**EP 16813318 A 20161205**

Priority

- US 201562262904 P 20151203
- US 2016064974 W 20161205

Abstract (en)

[origin: WO2017096379A1] A self-heating electric plugger/syringe needle (10/70) with the conductive element (50) on the external surface of the needle (10/70) is described. The needle (10/70), which can be divided into shank (30) and tip (20) portions, is hollow and is made of an electrically resistive material. A conductive element (50) located on the external surface of the needle runs along the length of its shank (30) and the length of its tip (20). An insulating material (60) located between the conductive element (50) and the external surface of the needle runs along the length of the shank (30). The conductive element (50) contacts the tip (20) of the needle, causing the needle to self-heat when electric current is supplied. A method for filling a root canal using the self-heating electric plugger/syringe needle (10/70) is also described.

IPC 8 full level

**A61C 5/55** (2017.01)

CPC (source: EP US)

**A61C 5/55** (2017.01 - EP US); **A61N 1/32** (2013.01 - US)

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**WO 2017096379 A1 20170608**; EP 3383306 A1 20181010; EP 3383306 B1 20190925; ES 2749712 T3 20200323; JP 2018535785 A 20181206; US 10729514 B2 20200804; US 11471249 B2 20221018; US 2018353262 A1 20181213; US 2021045841 A1 20210218

DOCDB simple family (application)

**US 2016064974 W 20161205**; EP 16813318 A 20161205; ES 16813318 T 20161205; JP 2018528624 A 20161205; US 201615781240 A 20161205; US 202016983724 A 20200803